Bulletin of The Medical Library Association

EDITED BY
J. C. HARDING

Publication Committee

Mr. J. C. Harding, Cleveland, Ohio, Chairman

Miss Ada L. Floyd, Cleveland, Ohio
Mrs. Mildred S. Farrow, San Diego, Calif.
Mrs. Judith Wallen Hunt, Chicago, Ill.
Miss M. Edna M. Poole, Toronto, Canada

Subscription price $3 per year Single numbers $1

Address all communications to the
Bulletin of The Medical Library Association, 11000 Euclid Avenue, Cleveland, Ohio

Vol. 24 February, 1936 No. 3

ALEXIS ST. MARTIN WAS IN ST. LOUIS

By Miss Lily C. Hanvey, *Librarian, St. Louis Medical Society Library*

Notwithstanding all circulated stories to the contrary, the great number of preserved original letters and other documents prove that William Beaumont never succeeded in bringing Alexis St. Martin to St. Louis for further experiments on digestion. In 1852, less than a year before Beaumont died, he tried without success to induce his subject to come to him from Canada. It is also known that St. Martin visited the United States after the death of Beaumont, but his presence in St. Louis, at any time, could not be verified, despite occasional vague assertions to that effect. None who had personal knowledge of it are still among the living, and all talk of it has lately been purely a matter of somewhat distorted, partly remembered fragments of hearsay information, offered by one's elders in by-gone decades.

The credit for finding a record which seems to settle this point of controversy belongs to Miss Harriette Werthmuller, Assistant Librarian of the Library of the St. Louis Medical Society, who discovered the following unindexed editorial in the St. Louis Medical and Surgical Journal of July, 1856:

"ALEXIS ST. MARTIN

"Dr. Bunting, late of the British army in Canada, recently visited our city, having in charge St. Martin, so well known in this community, and by physiologists everywhere, as the subject on which our late distinguished fellow-citizen, Dr. Beaumont, performed his celebrated experiments on the physiology of digestion. While here Dr. B. exhibited this unique specimen in the amphitheatre of the St. Louis Medical College, and performed a few so-called experiments before a large number of physicians and other scientific gentlemen of the city, at the close of which a

Reprinted from Bull. St. Louis Med. Society

collection was taken up for the benefit of his patient. It is now some thirty-five or six years since St. Martin received a gunshot wound in his left side, which has left a large fistulous opening into his stomach, through which the rare opportunity is afforded of examining the contents of that organ during the various stages of digestion. At present, he is 52 years old, is in good health, and in the full and vigorous possession of all his functions, seeming to suffer but little inconvenience from his wound. When the bandage is removed and the side exposed, the inner coat of the stomach slightly protrudes, presenting a red, almost scarlet, appearance.

"It is understood that Dr. Bunting and his attache are on their way to Europe, where it is to be hoped the case will fall into the hands of some of the eminent physiological observers of the old world who are capable of using it for the advancement of science. Such a case has never before occurred, and may not occur again, yet it is greatly to be regretted that as yet but comparatively little practical good has resulted to physiological science from it. In the exhibition which we witnessed, it was evident that the object was more to realize money than to promote science, but we hope that hereafter a different course will be pursued, and that the profession will yet have the benefit of all the light that this rare case is capable of shedding on the interesting subject of digestion. We therefore earnestly desire to hear from St. Martin again.

From this it can be seen that he came about three years after William Beaumont's death which occurred on April 25, 1853."

The Editors of that first medical periodical publication West of the Mississippi River were Drs. M. L. Linton and Wm. M. McPheeters, both unassailed for veracity and of high professional standing. Every word and phrase in the above quotation deserves to be accepted by posterity, as an essential part of a truly authentic historical incident.

BOOK-PLATES

By Miss M. Edna M. Poole, *Librarian, Academy of Medicine, Toronto, Canada.*

Collecting book-plates is a fascinating hobby for which one need make no apology. It is simply a delightful bypath along which anyone may wander who is interested in books and their owners, and the little decorative labels pasted within one's books as a mark of possession proclaim the book-lover.

Book-plates are almost as old as the printed book itself—the very reason for their existence being the introduction of printing. When works were laboriously transcribed in manuscript there were so few copies of any one of them that there was no need to indicate mark of personal ownership but as soon as the number of copies of a book multiplied some such mark was necessary. The early plates were usually heraldic, often even without the owner's name, for in those days a man's armorial bearings were as well known as his family name and a coat of arms might be recognized by those who could not read the written word.

Cardinal Wolsey is said to have been the first Englishman to use a book-plate, about 1525, but his was an illuminated armorial composition and hardly a book-plate in the ordinary sense of the word, and the plate engraved in wood in 1574 and placed in the volumes presented by Sir Nicholas Bacon to the University of Cambridge is usually considered the earliest English book-plate. The earliest known mention of them in English is found in Pepys' diary, under date 1668:

"Went to my plate-makers, and there spent an hour about contriving my little plates, for my books of the King's four yards."

Most book-plates bear some such phrase as "Ex libris," "From the books of" or "Ex biblio-theca" and from the frequent use of the first of these phrases they have become internationally known as ex libris.

Although book-plates have been in use nearly five hundred years the interest in collecting them is comparatively recent. One of the earliest amateur students of ex libris was the Hon. J. Leicester Warren (Lord de Tabley) who published in 1880 the first book in English on the subject. It was probably through Lord de Tabley's friendship with Sir Augustus Wollaston Franks that the latter became interested in the same hobby and made a collection of about 70,000 plates which he bequeathed to the British Museum. Franks was Keeper of the Department of British and Mediaeval Antiquities and Ethnography in the British Museum, but in his later years devoted much time to the study and collection of book-plates. After his death in 1897, his collection was classified and catalogued by Mr. Gambier Howe, a task requiring five years' labor. This catalogue of English and American plates was published in three volumes in 1903-04 and is a mine of information and a valuable reference guide to collectors, especially those interested in heraldic plates.

Styles in ex libris vary from armorial plates with heavy mantling to simple labels, with or without decorative borders, bearing only the owner's name. Between these extremes are plain armorials, allegorical plates, landscape plates, library plates (including library interiors and

XUM

book-piles), portrait plates, punning plates, etc., and examples of all these may be found in any representative collection of medical plates.

Collectors give different reasons for their interest in ex libris. Some are interested in the artistic merit of the plate itself and we can understand this, having in mind plates designed by such artists as Durer, Bartolozzi, Holbein, Faithorne, Berwick, D. Y. Cameron, Brangwyn. Some value the plate for its association as one would treasure any relic of a great man. Others again are intrigued by the heraldry and geneaological tracings but probably the majority of book-plate collectors delight in the beauty and interest of the designs.

Several medical men have interested themselves in collecting ex libris. Dr. Henry C. Eno, of New York, made a collection of over 5000 plates and after his death these were sold in the American Art Galleries. Although the collection was of a general character it included many early plates of medical interest and some exceedingly rare items. Dr. George C. Peachey, of London, England, has been collecting medical plates for over forty years and in 1901-02 contributed to the Journal of the Ex libris society "A list of the book-plates of medical men (British and American)." Dr. Roland Curtin made an extensive collection, and both he and Dr. Morris Fishbein have written on the subject.

A few years ago for Library and Historical evening at the Academy of Medicine, Toronto, we placed on exhibit the few plates we then had of medical men and institutions and as it aroused some interest we have added to them as occasion arose and have tried especially to obtain plates of Canadian physicians.

Many of our plates are in the books as we purchased them, for, generally speaking, a book-plate is of more interest in the volume in which it was placed by the original owner—although it is not in itself a part of the book and often its removal will neither injure the volume nor lower its value. Loose plates as we receive them are mounted, lightly tipped at the corners but not pasted down entirely and filed alphabetically by name of the owner. A collection quickly grows—that is one of the delights of book-plate collecting—one soon acquires duplicates which may be exchanged with other collectors and there is always the joy of searching old book-shops and poring over second-hand catalogues. Some booksellers, especially English ones, issue very good lists and will send plates on approval. There are a number of books that one will wish to possess, books that give information on the history and classification of plates and also periodicals devoted wholly or in part to the subject as well as the official publications of ex libris societies, English and foreign. With all this information available it is easy for anyone interested to acquire a working knowledge of the subject.

Modern plates are usually pictorial and it is always interesting to hazard a guess at a person's vocation or avocation from his book-plate. Probably that is why medical plates, or more correctly speaking, plates of medical men, are so interesting. In many, of course, one sees the caduceus, some show a skull and cross bones or retorts and crucibles, a microscope or an X-ray tube. Occasionally along with these symbols of the profession, an outside interest or hobby is suggested.

Many medical plates bear a reproduction from Holbein's "Dance of Death" or some variation of the subject, and Rembrandt's "Lesson in Anatomy" is another favourite theme. Dr. Warthin's plate shows Death sharpening his scythe, and Death cowers before the arrow of a strong archer in the plate of Dr. D. W. Pratt.

In the plate of Dr. Agnew of Toronto is shown a palette and brush along with a skull, and the plate is bordered by arrows, indicating an interest in painting and archery. Another of our Fellows pictures a rose arbour. Sir Frederick Banting's ex libris is adapted from a painting, by himself, of a corner of his laboratory. Dr. Jacobs of Atlanta, an admirer of Robert Burns, shows in his plate the poet at his plough as well as medical books and chemical apparatus. Dr. Brushfield, a collector of Raleighiana has a picture of Sir Walter Raleigh.

Portrait plates are an interesting type of ex libris and are particularly suitable for memorial or gift plates and are used more frequently for this purpose than as personal plates. This is rather a pity and may be through a quite unnecessary excess of modesty. Certainly no style can be more interesting to the collector because it is so personal. Dr. Thomas Cullen's plate shows not only the doctor himself at his microscope but also the seals of the University of Toronto, his Alma Mater, and Johns Hopkins as well as a view of the Johns Hopkins Hospital and his summer home at Magnetawan. Truly a biographical plate! It was engraved by Max Brodel who has several very artistic plates to his credit. Dr. Powell of Toronto is depicted on his book-plate standing by his canoe on the shore of one of his beloved northern lakes—this plate bears the legend "For forests ardent" and, inconspicuously placed, the reference Matt. 25:9. The portrait plate of Dr. Speakman, former professor of Zymology at the University of Toronto, shows not his own portrait but that of Charles Darwin, beautifully etched by Stanley Harrod.

Landscape plates had a period of popularity—they were used even before Thomas Berwick and often an element of heraldry is combined with the landscape. An early example of this in our collection is that of Samuel Farr, M.D., 1769, in which his coat of arms is shown resting against a funeral urn, surely anything but a cheerful plate for a physician! The plate of Charles Charlton, M.D. gives a charming picture of water shipping and the ruins of Tynemouth Abbey and is engraved, though not signed, by Berwick. The exquisite plate of Marion Crawford by Paul Avril showing a view of the Bay of Naples I mention because it is in a very handsome copy of Burton's Anatomy of Melancholy as we received it. A view of Georgian Bay is depicted in the plate of Dr. E. Wyllys Andrews of Chicago.

The majority of the plates in the Academy collection are armorial. Dr. William Warren Baldwin's has the engraved family crest and bears the historically interesting words, "Baldwin of Spadina, in the County of York, Upper Canada," and the plate of D. Campbell, M.D. who was surgeon for a battalion during the Rebellion of 1837-38 is a simple armorial.

The books of Sir William Osler contain a label with the simple legend, "From the library of Sir William Osler, Bart. Oxford" but the

XUM

plate of Sir Clifford Allbutt, Regius professor of Medicine at Cambridge bears the arms and crest which was granted in 1590 to the Regius professors of Physic, "and their successors in lyke place and office for euer." William Oliver (1695-1764) of "Bath Oliver" fame had a Jacobean plate as had Thomas Addams, M.D. (fl. 1745) both with heavy mantling. The plate of Oliver Pemberton has a dainty shell-like border with sprays of flowers characteristic of the Chippendale style.

Under the broad term literary ex libris may be included many designs incorporating library interiors, books and a type of book-pile that is peculiarly English. This would seem to be a most appropriate subject for a book-plate that is not heraldic. Dr. H. A. Bruce has chosen a conventional library interior for his and there are many of this type. The book-pile with its tiers of books forming a pile with a hollow centre where the name, monogram or occasionally the shield with coat of arms, is placed is not common among medical plates and the only one we have approaching it in design is that of Richard Pulteney (1730-1801) but it is not quite the orthodox book-pile.

A treasured plate is that of Oliver Wendell Holmes with its chambered nautilus and the motto "Per ampliora ad altiora." Our copy was given us by the late Mr. Justice Holmes and bears his autograph. Of the many beautiful plates by E. D. French, none is lovelier than that engraved by him in 1900 for Dr. W. B. James.

Until one has experienced the thrill of discovering a hitherto unknown plate, or felt the joy on opening an old volume of finding in it a long-looked for plate, one will not understand the fascination of this game of book-plate collecting.

CO-OPERATION AND CO-ORDINATION IN SPECIAL LIBRARY WORK*

By JAMES F. BALLARD, *Director, Boston Medical Library*

The fundamental objective of all library associations is cooperation: the welding together of scattered units into a homogeneous whole, for the promotion of better libraries and librarians, and for the co-ordination of library service.

The A.L.A. is a great organization, much like the large trade-unions, but without the advantages enjoyed by such unions in their ability to maintain close contacts and interest through the medium of the locals scattered in every city throughout the country. It has become an unwieldy, top-heavy association because of its purely national character and lack of local or sectional contacts.

One belongs to the A.L.A. because of the great good it has done and is doing for American libraries and the library profession and for the prestige of being a member and not for anything tangible conferred on its individual members. Because of the very large membership, only a few can take part in the work of conducting the Association.

For convention purposes, various sections are provided for discussion in special fields of library work, and if a librarian is interested in several divisions of work, he soon finds himself a member of three or even more sections with nominal dues in each section. It is to be noted that A.L.A. makes its sections self-supporting which is a proper policy to follow.

The strongest national organization is the comparatively small Medical Library Association. It is in a class by itself and is unique as it is composed of libraries as the primary membership unit to which the librarians are secondary. The voting power is confined solely to libraries and is exercised through delegates.

About 160 medical and allied libraries in the United States and Canada, from the largest of some 180,000 to 360,600 volumes to the smallest of 500 volumes, are banded together for the good of the whole group. The truly remarkable Exchange bureau and service of this Association has steadily increased its membership and maintained interest in the Association. Here we find altruism in the highest degree, where the great libraries give freely of surplus material to the small less fortunate libraries. Yet this very successful organization has its weak spot in the lack of regular local contacts. An annual conference is not sufficient to maintain constant personal interest.

A special committee of this organization was instrumental in reducing the cost of German medical and biological periodicals by about 40 per cent for 1934, an unselfish service of inestimable value to the whole world.

The great service clubs, Rotary, Lions and Kiwanis are built up from small local units and are tremendously successful.

The S.L.A. has the ideal plan in its local chapters which make up the National Association. These local units are the back-bone of the

* Abstract of a talk given before the Boston Chapter, S. L. A.

XUM

organization and make for its success. The special groups serve a fundamental need in the annual conference, as do the sections in A.L.A., but a serious mistake would be made to over-emphasize them to the detriment of the chapters. They should be allowed to develop naturally within the chapters.

It is probable that the large chapters of New York and Boston with memberships of close to 500 and 300 respectively, could support successful special groups.

Boston has a very fine newspaper group but attempts to form other groups have failed. This is due to a large extent to the high excellence of the regular monthly meetings. I feel confident that a strong biological group can be formed in the Boston Chapter as the foundation has already been laid.

(Since writing the above, a very active group has been organized with membership of about thirty persons, representing about sixteen libraries.)

It must be recognized that the primary unit of S.L.A. is the chapter and that it must always be so in order to maintain the present successful organization.

The first step in the promotion of cooperation among special librarians is to make them acquainted. Every special librarian should know every other special librarian in the community and the State and be able at all times to call on them for information in their particular fields. To do this, it is necessary to bring them together and the best way to accomplish this is to make them members of the local chapter.

Meetings at regular intervals must be made so appealing that they will attract large numbers of the members from all of the different types of libraries within the S.L.A. The Boston Chapter has made a good start this year with an average attendance of over 96 for our first three meetings.

The professional courses given at nominal prices by the Education Committee and the employment service rendered by the Registration Committee and like activities help in making the Boston Chapter of use to its members.

The local chapters should make themselves so valuable and worthwhile to their members that librarians cannot afford not to belong to them.

The National Association should make itself so valuable to the local units that there should never be any question as to the absolute need of affiliation of the locals with the national. The National Association should not get to the point where it is going to expect a return of two dollars for every dollar spent in the work of the organization. It should cultivate a spirit of altruism sufficient to permit it doing something for its members without expecting a tangible return.

The second important step in cooperative effort is to coordinate the special information resources of the community and make them available to all members of the organization.

All librarians cannot know everything and what may be everyday information to one may be unknown to other librarians. This is par-

ticularly true in special library work where the information is so diverse in character.

Every special librarian should have as complete a knowledge as is possible of every special library in the jurisdiction of his chapter.

The best way to bring this about is through the publication of a directory of local special libraries with very detailed information as to the particular fields of knowledge covered by each library and its policy concerning relations with other special libraries.

It is important for us to know how much help we may expect from the great reference libraries of our community, such as the Boston Public Library and Harvard College Library.

Those of us who are fortunate in having expert knowledge or control over large sources of information should be glad to share our wealth with less fortunate members of the profession.

We should not be high-hat or snooty to our lesser colleagues or be excessively superior in our knowledge but should remember that we have much better opportunities for acquiring all kinds of information than have the librarians and assistants in the smaller libraries.

In these times of economic stress, a comprehensive plan of cooperative effort should be developed for the special libraries, to eliminate as far as possible, duplication of material, time and labor.

In addition to the interchange of information, there should be interchange of material, of ideas and of methods of work, and possibly even interchange of certain classes of library workers, or more properly the development of cooperative cataloging, classifying or bibliographical research.

In speaking of interchange of material, it would be better to refer to it as cooperative allocation of source and reference material. Cooperative buying and cooperative allocation of expensive material may be developed in a community with decided benefit to special libraries.

The Boston Medical Library has developed a plan of cooperative buying, without any charges for overhead expenses or additional paper work, or elaborate set-up, which obtains for the libraries in the group the maximum discounts obtainable for quantity buying.

In the allocation of material for purchase, two or more libraries in the same field may divide between them the expensive reference sets and periodical publications. In this manner, they all become available in the community but the burden of expense is shared by the cooperating libraries.

In Boston, the medical group has made considerable progress along these lines. There is close cooperation between the hospitals, medical schools, state and city health departments and the Boston Medical Library. The Harvard Medical School Library is working in close relations with the Boston Medical Library, and it has and keeps up to date a catalogue of the books in the Boston Medical Library. There is a certain allocation of periodicals between these two libraries and there is free interchange of material between them.

XUM

Speaking of periodicals, a list of special periodicals currently received in libraries in Boston has been needed for a long time and the list now being made as a project of the F.E.R.A. should be of great value to the special librarians of the City and State. A master list will be kept at the State House in the State Library. However, to be of permanent value, it should be kept up to date after the compilation is completed.

There also is being made as part of the F.E.R.A. project a list of expensive works of reference contained in the various special libraries in Boston and vicinity.

Concerning special collections on one subject, it would be folly under present conditions for a library to duplicate an existing collection.

The Boston Medical Library is developing with special funds a collection of incunabula and medieval and renaissance manuscripts such as would have been brought together in the late 15th century for the use of medical scholars.

This collection now consists of about 625 incunabula and manuscripts. Within the group of incunabula will be found smaller groups, such as herbals, illustrated medical books, plague tracts, dictionaries and encyclopedias, Arabian authors, etc. There is a fine lot of printed herbals before 1500, and one or more of every illustrated medical book exclusive of the herbals. The collection of plague tracts is the largest in this country and is probably the largest in any medical library in the world. The collection of Arabian medical authors contains eleven out of a possible twelve and nine of the works are in first editions. The collection of dictionaries, vocabularies and encyclopedias is out of the ordinary.

Likewise, it is collecting books in its fields printed between 1501 and 1700 and has hundreds and hundreds of such publications.

It is also making a special collection of medical and scientific hebraica and judaica in manuscript and printed forms from the earliest times to the present and it has already gathered a comparatively large collection of medical manuscripts in Hebrew. It has a large collection on suicide, a very remarkable collection of medical and scientific medals, numbering some 4000, and the largest known of its kind. A member of the Library is making complete collections of the works of Georgius Agricola and Bernard Ramazzini and another member is concentrating on Robert Boyle and Hieronymus Fracastoris.

The books and manuscripts range in value from $25 to $5000, and I cannot estimate the total value of the collections which are open freely for research to all who have need of them.

The Harvard Medical School specializes in public health and consequently my Library buys only the essential texts in this field, leaving the subject as a whole to the medical school. Likewise, the George Burgess Magrath Library is specializing in legal medicine, and we are relieved of the necessity of buying everything in that field.

You must pardon my references to my own Library, but as it is the one with which I am most familiar, I must take it for my text.

The point I want to make is one you can readily see: that it would be most unwise to duplicate in the same community these expensive collections, especially when they are open for legitimate use.

One of the very first results of competition in a small field would be the raising of prices which are based on the old formula of supply and demand.

Here again we see the value of cooperative buying which can be applied to old as well as new material. If all the buying is done by one person, prices cannot be boosted by pitting one buyer against another.

The Boston Public Library very wisely refrains from extensive purchases in the fields of medicine, law and the history of business. These branches it leaves to the special libraries. The public libraries in and around Boston look to the Boston Medical Library to keep up in the field of medicine.

The Boston Medical Library has a plan of so-called professional membership which practically makes those institutions and organizations admitted to this membership branches of the library. Included in this class are hospitals, state departments, an industrial plant and a laboratory of eugenics.

Interchange of ideas, of methods and of special technique could be brought about by a central clearing house maintained by the Boston Chapter for the use of its members.

Cooperative endeavor in the highly specialized technical processes of library work would prove of great value if a feasible workable plan could be evolved for special groups, such as the biological and medical.

One cataloger, one classifier, one bibliographer might serve a number of the smaller libraries. In this way, the technical expert in the higher salary bracket could be kept at work constantly in her particular field and not have to do work in the lower-price bracket to fill in as she often has to when she works for one library.

Exchange of duplicate and discarded material offers a fertile field for local tilling. Many special libraries are interested in related subjects of a general character.

My personal interests are general biography, medieval history and customs, bibliography in general and in particular of incunabula and books printed in 17th and 16th centuries, library administration and library technique in all of its branches. You might not expect to find those interests in a medical librarian and it is possible that other special librarians have interests as diverse as mine. Everything of value should be saved for a time, and if possible, placed where it will do the most good.

S.L.A. has a special committee on cooperation in business library service which at present operates as a clearing house for discards of valuable material. Exchange service might be made self-supporting by making a nominal charge an item to the receiving library to pay for the listing. You will note that the November Bulletin of the Boston Chapter has lists of directories available for gift or exchange, which have been printed as a test of the idea.

Mr. Lee has spoken from time to time of sponsors of knowledge. I believe that he was on the right track and that his idea should be kept alive and made of practical use. My own Library is known throughout the State as the headquarters for medical information. We have among our large membership specialists in all the sub-divisions of medicine and

XUM

the allied sciences. We are glad and willing to do what we can to help other libraries in medical matters. I am known as an authority on the value of early printed medical books, and the classics of medicine and I am consulted by book-dealers, librarians and individuals and I am glad to be of help in such matters.

Recently, I was designing an elaborate symbolical bookplate in which I was using a combination of the brazen serpent of Moses and the single caduceus. The artist had finished the preliminary sketch when a question arose as to the form of the serpent's head and the proper position of the fangs. I didn't waste any time of my own on the matter but sent the artist to the Boston Society of Natural History where he was overwhelmed with information and treated with the greatest courtesy and even had access to a snake's skull. Our snake is now anatomically correct and can withstand the closest scrutiny of the herpetologists. Also, the librarian of the West-end branch of the Boston Public Library assisted the artist in checking the Jewish symbols used in the plate.

Another worthwhile service would be the formation of a book-review committee to evaluate the newer books in each special field of knowledge. One person from each special field represented in special library work could form the committee and report on the new books as published.

It is most essential that the special librarian should know all of the books in his particular field and how to use them.

Some progress has been made in Boston in cooperative buying and allocation of material in one special field and the Exchange Service has been started in a very small way but much of my story has been talk and some way should be found to coordinate these various activities for the good of the Chapter. It seems to me that a permanent committee should be appointed for this purpose. We shall have to find good-natured, altruistic, competent persons who are willing to sacrifice themselves and their time for the benefit of their fellow members. Such a committee would have charge of all phases of cooperation and coordination as outlined in this evening's symposium.

THE HISTORY OF THE THERMOMETER AND THE SPHYGMOMANOMETER

By BRADFORD NOYES, JR., *Taylor Instrument Companies, Rochester, N. Y.*

I know that there are a number of medical men here today, and by medical men I mean practicing physicians, but I assume that most of my audience is composed of people who like myself are interested in medicine from the side lines, are closely associated with physicians, and yet who do not know all the technical terms used. What I say is my own personal opinion and should not be construed as coming from the Company with which I am associated. In fact, I am quite sure that our Sales Department would not approve of some of my views.

In thinking over the subject I cannot believe that medical librarians, or even practicing physicians, are particularly interested in the history of the thermometer or sphygmomanometer and for that reason I am going to omit names of a large number of men who were instrumental in the development of these instruments and am going to spend more time on their present day practical applications.

In assembling this material I was struck by the lapse of time between the publications of the results of experimental work and the adaption of the knowledge so gained into the general practice by the medical profession.

The story of the sphygmomanometer is the story of the pulse. Hippocrates, the father of medicine, in 460 B.C. first recognized the abnormal human temperature as a symptom of disease. Herophilus a few years later first counted the pulse by using a water clock.

To me the Greek philosopher is best symbolized by the famous statue of the Thinker, or by the story of Archimedes and of how he discovered the law, now known as Archimedes' law, while sitting in his bath. Little experimental work was done by the Greek School of Philosophy. Even in the days of Galileo it was considered rank heresy to doubt any of the conclusions of the Aristotle school. Galileo was put in prison for daring to question its doctrines. I like the story told of Galileo when persecuted by the church for his theories—how, faced with death he retracted, but murmured under his breath that they were true, just the same.

The Greek Philosophers had taught that two bodies at different density fell with speeds proportional to their densities, but the Greeks never thought of trying it out. For eighteen centuries it was against the laws of God, as represented by the church and man, to believe otherwise. It remained for Galileo to perform the experiment. He climbed to the Leaning Tower of Pisa and there simultaneously dropped two bodies of different densities. Philosophers from all over Europe had come to Pisa to witness this experiment and it is reported that some went away convinced that Galileo was right, others went away doubting, while still others departed not believing what their eyes had seen. Several years ago I told this story to one of our foremen, to whom I had demonstrated certain theories to my satisfaction, but evidently not to his. This foreman was still not convinced, and to my mind was one of those who went

XUM

away not believing what his eyes had seen. The story evidently made a great impression on him, for recently he recalled it to my mind. He was telling about the excellent workmanship of a certain one of his friends whom he wished to employ, and after having described the man's ability in glowing terms, said to me, "Do you remember the story you told me about how Galileo dropped the falling bodies from the leaning tower?" I said, "Yes." "Well," he said, "this man Gunther knew Galileo in the old country."

It seems extremely interesting that the two men early associated with the clinical thermometers were also interested in the pulse. To Galileo belongs the credit of making the first thermoscope and it was Galileo who counted his pulse while watching the pendulum in the cathedral swing. The first figure (1) shows a picture of the thermoscope as invented by Galileo and I have set up in our exhibit a model which is my conception of this instrument. Then Sanctorious, a Professor of Medicine and friend of Galileo, instead of using the pulse to measure the time of the pendulum, used the pendulum to measure the pulse. His device is shown in Figure 2. He varied the length of the string until the pendulum was synchronized with the pulse. The length of the string was then a measure of the frequency of the pulse beats.

The air thermometer of Galileo had serious disadvantages. It was not only clumsy and hard to move around, but it was also greatly affected by barometric pressure. As a matter of fact, it was just as much of a barometer as it was a thermometer, because the height of the column in the tube depended not only upon the temperature of the bulb, but upon the atmospheric pressure outside of the instrument.

Sanctorious also devised a thermometer for measuring human temperatures. He made an instrument with a large S-shaped bulb which could be placed in the mouth, and later published several papers dealing with the results so obtained.

From this point on, the paths of thermometry and sphygmomanometry divided, and for the next few minutes we shall consider the history of the thermometer.

Ferdinand II, Grand Duke of Tuscany, a few years after Galileo, thought of filling the thermometer bulb with a liquid and using the liquid as a thermometric material. He then sealed the end of the tube and the readings for all practical purposes were independent of barometric pressure.

After Ferdinand II came De Haen of Vienna. De Haen was the first to introduce the thermometer into the practice of medicine. He devised an instrument which he left in place for 7½ minutes. All told, he wrote fifteen volumes describing his work in this and other closely allied fields. De Haen became aware of the fact that the temperature of man is not constant, but rises and falls twice a day. The Evolutionists explain this as dating back to the time when our ancestors were reptiles living near the sands of the sea where the tide rose and fell twice a day, and the temperature of these cold blooded ancestors was supposed to be affected in a similar manner.

In my study of the history of clinical thermometry and sphygmomanometry I am impressed often-times with how much is known but how little applied to medicine. Often our knowledge is far ahead of practice. De Haen was interested in human temperatures and realized that variation from normal was indicative of a pathological condition. Yet, upon his death the medical thermometer was abandoned. A hundred years later, in 1740, an Englishman by the name of Martin published observations on the temperature of man and animals. We have two early editions of Martin's work in our library which are on exhibition here, and it is interesting to read that at that time there was considerable argument about whether or not the freezing point of ice varied with latitude, and scientists took thermometers from England to Italy to prove or disprove their theory.

Lavoisier and La Place, two Frenchmen, became interested in human thermometry when studying the source of animal heat. These two men, one a chemist and one a mathematician, both living in Paris at the same time, worked very closely together. Lavoisier, the chemist, was not a politician. He described things as he saw them. He feared no man. He was beheaded in the French Revolution. La Place, mathematician and scientist, seemed also to be an able politician. A French Revolution which brought death to his associate brought honor and glory to him. He changed his political views with each change of government and with each change of government was given a higher title of nobility.

The surprising thing in human thermometry is the number of scientists, who are not medical men in any sense of the word, but who are closely allied with the development of the thermometer itself. Galileo and Sanctorious were followed by Lavoisier and La Place, by Dalton, Davy, Joule, Du Long, Thomson, Bequerel, Fourcault, and Helmholtz.

In 1822 Gentil studied the effect of age and sex on the variation of human temperature. In 1835 Bequerel and Breschet measured the temperature of various parts of the body by means of thermocouples. Later I will show how the information gained at this time was not used until almost a hundred years later. Henri Roger in 1844, 200 years after Sanctorious, studied the temperature of infants and the temperatures associated with the diseases of smallpox, typhoid, rheumatism, pericarditis, whooping cough, meningitis, and other diseases.

It is realized that physicians must be conservative and that new remedies cannot be accepted except with great caution. However, it seems almost unbelievable that the use of anesthetics, which was known and practiced by the Greeks in the days of Homer, and known to the Chinese at even an earlier date, and which was described and practiced by Pierson of Birmingham in 1785, should not have come into general use until sixty years later, after the work of Dr. Wells, a dentist in Hartford. Demarquay in 1848 studied the effects of anesthesia, using both chloroform and ether, on the temperature of the patient.

The credit for introducing the clinical thermometer into modern medicine, however, belongs almost entirely to Wunderlich. He and his co-workers in his clinic studied the temperature of more than 100,000 patients. The instrument originally used by Wunderlich was an ordi-

XUM

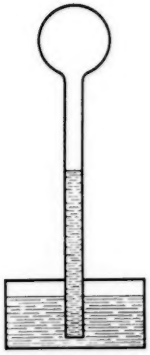

FIG. 1
GALILEO'S
THERMOSCOPE
1607 A. D.

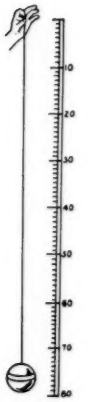

FIG. 2
PENDULUM FOR
TIMING PULSE
INVENTED BY
SANCTORIOUS

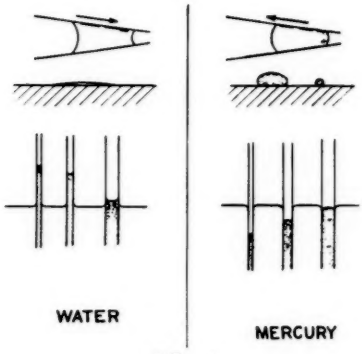

FIG. 3

BEHAVIOR OF MERCURY
AND WATER ON A GLASS
PLATE

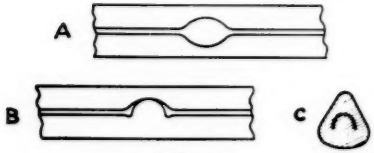

FIG. 4

A- CHAMBER BLOWN
IN CAPILLARY
B- CHAMBER COLLAPSED
C- CROSS SECTION OF
CONTRACTION

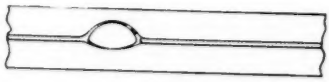

FIG. 5

MERCURY PASSING
THROUGH CONSTRICTION

FIG. 6
A- BASE OF A CLINICAL THERMOMETER
B- HUMAN HAIR
BOTH TAKEN THROUGH A MICROSCOPE

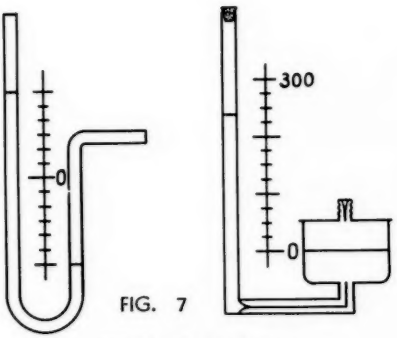

FIG. 7

SIMPLE MERCURIAL
SPHYGMOMANOMETER

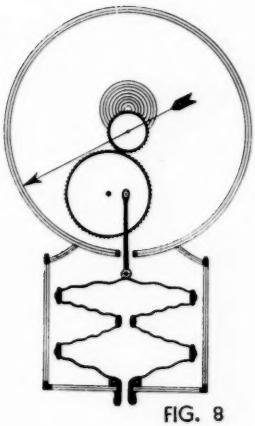

FIG. 8

CONSTRUCTION OF
ANEROID
SPHYGMOMANOMETER

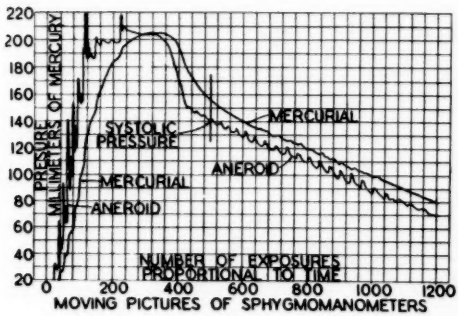

FIG. 9

FIG. 10
PAVAEX INSTRUMENT IN USE

nary weather thermometer. Later special instruments were made quite similar to the ones used today, except that the stem was of round glass and the maximum registering feature had not at that time been invented. Some of Wunderlich's thermometers were filled with colored spirits and some were filled with mercury. Wunderlich knew and understood that thermometers did not at that time remain constant, but that their bulbs gradually contracted with age. It was not until the work of Dr. Schott at Jena about 1890 that this difficulty was partially overcome. In the days of Wunderlich the thermometers made and calibrated when green developed errors of two to three degrees over a period of several years.

Dr. Schott invented a glass in which this change was about one-tenth of that present in the older glasses. This glass was called "Jena Normal" and is still the most suitable glass for thermometric purposes. During the war our supplies of German glass were cut completely off and the Corning Glass Works in a few months copied the "Jena Normal" glass. Corning Normal, which is identical with "Jena Normal," is used by all reputable manufacturers in this country at the present time, and they age the "blanks" at least four months before engraving the scale on them. In this four months most of the shrinkage of the bulb takes place and further change may be considered negligible.

Seventy-five years ago it was even harder to see and read the column of the clinical thermometer than it is today. Thermometers at that time had to be read in position, for if they were removed from contact with the patient, the mercury column receded.

Aitken, an Englishman, invented the contraction of a thermometer. The contraction is that device which makes a thermometer hold the highest reading to which it has been subjected since last shaken down. I had intended to show today the mercury passing through such a contraction, but time does not permit. The best that I can do is to show a few slides explaining how a contraction works and why it is necessary that all maximum registering thermometers be filled with mercury.

If a drop of water is placed on a clean glass table the water spreads over the surface and wets the glass. (Figure 3.) If, however, mercury is placed on a clean glass surface it does not wet the surface. The mercury remains in small drops or globules, each of which would be perfectly spherical if it were not for the force of gravity. If three capillaries of different sizes are placed in water, the water in the capillaries will rise above the water in the container. The smaller the capillary, the higher will the water rise. If a drop of water is placed in a funnel shaped opening of glass, the water tends to run toward the smaller end of the opening. With mercury just the opposite is true—the mercury runs to the large end of the funnel. The smaller the diameter of the capillary immersed in mercury, the lower mercury rises in the tube as compared with the outside level. Mercury is the only suitable thermometric substance of which we know that does not wet glass.

The next figure (4) shows the contraction of the clinical thermometer. A chamber is first blown in the capillary and then the tube is evacuated. A flame is played on the back of the tube, which causes the glass to rise as shown in the second illustration. A cross-section of the

tube is shown in the bottom of the figure. The mercury squeezing through the narrowest part of the constriction tends to take that shape which has a minimum surface—that is, a sphere. The globules then rush through the contraction in small drops (Figure 5), and the mercury above the contraction is never in contact with the mercury in the bulb. The only way to get the mercury from above the contraction is to shake it down by means of centrifugal force. Unfortunately all clinical thermometers do not act as they are supposed to act and in some of them the mercury rises in a continuous stream. When the bulb is cooled the mercury above the contraction tends to run back into the bulb, and will run back, unless the bulb is cooled so rapidly that it cannot run through fast enough and so breaks as shown.

However, I have gotten ahead of my story. What I have just said explains the operation of the contraction of the thermometer as developed by Aitken. The next, and we may say the last improvement in the ordinary clinical thermometer, was the development of the lens tubing. Most people have trouble in reading a clinical thermometer, but this is not surprising, for the diameter of the bore is only about one-twelfth the size of the human hair, or about forty times the wave length of sodium light. (Figure 6.) It is known that the type of lens which will give the best magnification has the cross-section of an ellipse and that the ratio of the major to the minor axis of this ellipse depends upon the numerical value of the index of refraction of glass. The bore in an ideal thermometer is located at the rear focus of the ellipse. However, it has not been found practical to make tubing of this shape. The modern tube may be turned through a very small angle, and still the mercury column will be visible. This angle which it may be turned through is less than the angle subtended by the two eyes when the thermometer is held vertically at the distance of distinct vision. It is obvious, therefore, that in reading the thermometer it should be held in a horizontal position and not in a vertical position. A so-called half-minute thermometer has a smaller bulb than the one-minute or two-minute, but I should point out at this time that this half-minute registration, so-called, is nonsense and is put out by certain manufacturers for sales reasons only. The bulb of any mercurial thermometer is approximately 11,500 times as large as the volume of one degree. Obviously, the smaller the capillary, the smaller will be the volume of one degree and the smaller will be the bulb. We, of course, are limited in the minimum size which we can make the capillary. The size is now so small it is often impossible for an inexperienced observer to see the mercury column. The smaller the capillary the more unreliable a thermometer tends to become. A greater number of degrees will be represented by one of the "jumps" through the contraction mentioned above, as the size of these "jumps" is not determined by the size of the capillary, but by the shape of the constriction.

This talk would be incomplete if a few simple directions were not given as to how a thermometer should be placed in the mouth. Naturally, every effort is made to get an accurate reading in the shortest time possible. The thermometer should be placed in the mouth on top of the tongue, allowing the thermometer to come to the same temperature as

XIIM

the top of the tongue; then, without removing it from the mouth, the thermometer should be placed underneath the tongue and as far back on one side as is possible. After a few seconds on one side of the mouth, it should be moved to the other side. In general, a thermometer should be left in place about two minutes, but no definite time can be given, as much depends upon the circulation and the cooperation of the patient.

In our work we are called upon to make a large number of special thermometers. We regularly make thermometers for taking the temperature of cats, dogs, horses, and cows. Occasionally we are called upon to make a thermometer for taking the temperature of a bird or a snake. Recently we made an instrument for taking the temperature of a bee-hive in the winter time. However, the prize of all the special requests which we have received goes to a Yankee from Connecticut. We make a recording thermometer which has a chart about fifteen inches in diameter, this chart being rotated by a clock mechanism and the entire thermometer weighing about thirty pounds. Our Yankee inventor discovered that the temperature of a hen went up two degrees or so every time she laid an egg. He asked us to make a recording thermometer about the size of a quarter on which could be placed a seven-day chart—the whole instrument to be mounted under the hen's wing. His idea was that every time the hen laid an egg there would be a notch in the record and in this way he could count the number of eggs which the hen laid.

We have left the study of the sphygmomanometer and the pulse back at the time of Sanctorious. For fifty years no great advances were made until the time of Steven Hales, who lived from 1677 to 1761. He measured the pressure of the blood by measuring the height of a column of blood in a glass tube which was connected to the artery. Hales was not a physician, but a clergyman and biologist who was interested not only in scientific facts, but in prison reform and gin drinking, of which he did not approve, and he founded many charitable organizations. He calculated the speed of circulation.

After Hales we have another lapse of seventy-five years until the days of Poiseuille—1828. Poiseuille might be termed the father of modern blood pressure. He invented the U-shaped mercurial manometer, he experimented with dogs and horses and studied the effects of cold and heat on the movement of the blood. He borrowed from hydraulic engineers their equation for the flow of liquid through tubes and gave us a set of laws for the flow of blood which holds today. All of Poiseuille's work was done on animals. Probably one reason was that in his time it was necessary to actually connect the blood vessel to the manometer in order to measure the blood pressure.

Julius Herison first applied the measurement of blood pressure to man and opened up a new vista to the medical world. His invention was hailed in Europe and America, but again a period of darkness came over this science and he was forgotten. His name is not mentioned in a most modern book of blood pressure.

Samuel Von Basch, Professor of Experimental Pathology at the University of Vienna became interested in the distribution of blood in the body. It is said that he was the first to take an actual scientific blood

measurement on man. Certainly it was he who made the first aneroid sphygmomanometer and it was he who used a compressible pad, which, applying pressure to the artery, stopped the circulation at the point of systolic pressure.

Actually in taking blood pressure today a rubber band is wrapped around the arm of the patient. This band is inflated and compresses the arm until the circulation of blood is stopped. This stoppage is determined by the absence of pulse, a stethoscope being generally used to tell exactly when the flow of blood ceases. There was considerable argument in the medical profession concerning whether or not readings taken in this method were the true readings of the systolic maximum blood pressure. Von Basch in a dramatic demonstration before the Physiological Society of Berlin showed that readings obtained in this manner, using a properly calibrated aneroid manometer, were exactly the same as those obtained by a mercurial thermometer connected directly to the artery.

From 1870 to 1880 various apparatus for measuring blood pressure were produced.

Jules Marey, who died in 1910, was Professor of Natural History at the college of France. Marey was a physiologist, always interested in the precise measurement of some movement, whether this motion was of animals, of birds, of the circulation, or of a racing horse. He was a discoverer of the motion picture. He invented apparatus for taking simultaneous pictures of birds from the front, side, and top. In 1887 he used rolls of paper films and as soon as celluloid films were invented adapted them. Earlier in 1863 he had invented a sphygmograph to obtain a graphic record of the pulse. Later he devised an instrument for studying the heart itself and a large part of our present knowledge of the heart's motion is based on the work of Marey.

I pass over many eminent medical men who were intensely interested in the measurement of blood pressure but who did little to develop the instruments for its measurement.

In 1896 Riva-Rocci invented his sphygmomanometer and the mercurial instrument is today essentially as it was in Riva-Rocci's time. The case has been improved, but because of so-called improvements in the tube, which will be explained later, it is doubtful if the mercurial instrument of today is as accurate as that used in the days of Riva-Rocci.

The mercurial type of sphygmomanometer is shown in Figure 7. It consists essentially of a U-tube filled with mercury. Originally it was so simple that any glass blower could make one in ten minutes and all that was needed was a glass tube, a little mercury and a meter stick. An interesting physical phenomena interferes with the action of the mercurial instrument. If the bag of a mercury sphygmomanometer is inflated, it oscillates with a frequency which is very close with the human heart; consequently we get the column oscillating up and down, the amplification of the oscillations increasing and then decreasing. This movement of the mercury column makes the simple mercury instrument extremely hard to read. In order to damp out these troublesome oscillations, manufacturers have introduced into the system three constrictions, one at the point where the tube from the arm bag enters the instrument, the

XUM

second between the reservoir, the third a porous plug at the top of the glass tube which is intended to allow air to pass through it but to keep the mercury from spilling when the tube is inverted. These constrictions tend to make the indication of the mercury column lag behind the actual pressure of the tube.

The aneroid instrument has been changed very slightly since the original model came out. (Figure 8.) It consists of a diaphragm similar to that used in a barometer and as the pressure is increased in the bag, the diaphragm expands, causing a pointer to rotate and indicate the pressure of the bag. Slight improvements have been made in design. The materials used for the diaphragms have been studied and improved and the aneroid instrument today remains a simple, portable, and accurate instrument.

Sometime ago I purchased a mercurial instrument of a competitor on the open market and connected it with an aneroid instrument, both of them connected by a Y to a cuff on an arm. I found that the mercurial instrument lagged considerably behind the aneroid instrument, due to the three constrictions about which I told you. I was unable to make simultaneous observations of the two readings, so I took moving pictures of the instruments and later by means of a microscope took the two indications from each frame of the moving picture. These indications were plotted and are shown in Figure 9. Without going into detail I may say that the mercurial instrument lagged behind the actual pressure of the arm bag by almost 15 mm. and that if one were having his blood pressure taken with a mercurial instrument it would read 15 mm. too high.

I am going to drop the history of both the thermometer and the sphygmomanometer at this point to tell you some of the most recent developments which have occurred in this line.

After one passes the prime of life there sometimes sets in a condition in which the foot does not get enough circulation of the blood. Gangrene develops and unless its course can be arrested, the foot, then the knee, and finally the entire leg may be amputated. This condition has been more pronounced since the discovery of insulin, as insulin is prolonging the life of the diabetics who seem to be particularly subject to this trouble. Lack of blood supply may be caused in two ways. The nerves may constrict the blood vessel and reduce the normal flow of blood, or it may be that there is "rust in the pipes." We have all heard the expression "cold feet," and I assure you that there is something to it.

Perhaps all of us have felt our hands go cold when we become excited. Sometime ago, out of pure curiosity and not to enrich science in any way, I connected up an apparatus for continuously recording the temperature of the thumb of a young lady whom I had come to my office. I left the office and remained away long enough for her temperature to become normal. When I again entered the office her temperature dropped two degrees Centigrade. I then went over and questioned her in such a way as to make her extremely nervous. I asked her if she felt well, if she ever had heart trouble and other similar questions. Her temperature dropped three more degrees. This is due to the nerves closing down on the blood vessels. This closing is entirely involuntary, and may extend

over a period of weeks. Once gangrene sets in the foot, unless it can be arrested, the loss of the leg is assured. Physicians are able to treat this nerve trouble, but if the loss of circulation is due to what might be termed "rust in the pipes' or hardening of the arteries, it has formerly been necessary to amputate the leg. The temperature on the surface of the big toe under controlled conditions is a measure of the amount of circulation. You will recall that Bequerel almost a hundred years ago measured the temperature of various parts of the body by means of thermocouples.

About five years ago we received an urgent call from the medical profession to develop a practical apparatus for measuring surface temperatures which could be used at the patient's bedside and which would not be prohibitive from a cost standpoint. We had in the Laboratory such an apparatus which we had developed, but which had not been put on the market. This apparatus is now called the Dermatherm and is generally used for measuring the temperature of the big toe. If a patient is suffering with gangrene or with troubles which might develop into gangrene, the temperature of his toe is measured, then a spinal anesthetic is given. This spinal anesthetic paralyzes the nerves and allows the blood vessels to dilate. If then the trouble is caused by nerves, the temperature of the big toe, which was originally cold, rises to a certain pre-determined temperature. If the rise is insufficient, the physician knows that the trouble is due to "rust in the pipes." A year ago the leg would have had to be removed. The Dermatherm has, without doubt, saved hundreds of legs by telling the physician that a nervous condition and not "rust in the pipes" may be treated.

Within the past year Dr. Hermann of the University of Cincinnati and his co-workers have developed an apparatus which restores the circulation in the leg, even though the main artery be clogged. The smaller arteries are brought into use and opened up and enough circulation provided to support the leg. This apparatus, called the Pavaex, is shown in Figure 10. The leg is placed in a glass boot and the pressure in the boot is varied, first being a vacuum and then a slight pressure. This pressure is made to oscillate about four times a minute. With this apparatus amputations have dropped at the University of Cincinnati from approximately twelve a month to one a month. The sad part of all this is that all the information was available a hundred years ago. Original results were published by Marey in 1832 and the fact has been discovered and re-discovered several times since.

BIBLIOGRAPHY

A very complete bibliography up to 1875 will be found in the volume entitled "Medical Thermometry and Human Temperature," by E. Seguin. Also at the end of an article entitled "Investigations on Clinical Thermometry," printed at the Lancet Office in 1916, by G. Sims Woodhead and P. C. Varrier-Jones. A very complete history entitled "The Story of Blood Pressure," by Charles J. Brim appears in the February 1930 issue of *Medical Life*. Also see the article entitled "A Comparison of Mercurial and Aneroid Sphygmomanometers," in *The Review of Scientific Instruments*, Vol. 2, No. 10, October 1931.

XUM

PAUL NORTH RICE APPOINTED TO NEW POSITION OF DIRECTOR OF N. Y. U. LIBRARIES

Chancellor Harry Woodburn Chase of New York University announced late Thursday the appointment of Paul North Rice, librarian of the Dayton, Ohio, Public Library, to the newly created position of director of the libraries of New York University.

The appointment, effective February 1, 1936, will bring the administration of the University's various book collections, comprising half a million volumes, under one central office, Chancellor Chase said. The office will also provide a unified approach to the problem of creating more adequate book resources and building accommodations, the announcement stated.

Mr. Rice has been librarian of the Dayton Public Library since July 1, 1927. During his directorship there the library has increased from slightly less than 200,000 volumes to approximately 350,000 and the circulation of books has increased from a little over 600,000 to approximately 1,800,000 annually.

Native of Lowell, Mass., Mr. Rice is the grandson of Dr. William Rice who was for 37 years director of the Springfield, Mass., Library. He graduated from Wesleyan University at Middleton, Conn., in 1910 and studied for two years at the New York State Library School.

After two years as reference assistant at the Ohio State University Library, Mr. Rice joined the staff of the New York Public Library and rose from reference assistant at the information desk to chief of the preparation division, a post he held from 1920 to 1927.

Mr. Rice was president of the Ohio Library Association in 1930-1931; chairman of the Legislative Committee of the same organization from 1931 to 1935; and has been active in state-wide campaigns for better library legislation. In 1934 he was chairman of the American Library Association Activities Committee which made an exhaustive report of all the activities of the National Association.

In his new position Mr. Rice will coordinate the work of the University's several library centers including, principally, the General Library in the Gould Memorial Building at University Heights, 150,048 volumes; Washington Square Library, 203,347 volumes; Medical Library, 18,000 volumes; Dental Library, 4,706 volumes; Commerce Library, 61,899 volumes, and the Wall Street Division Library, 16,445 volumes.

Last year the libraries issued 647,078 volumes for home use; subscribed to 3,080 periodicals; acquired 17,699 additional volumes; and catalogued 21,845 volumes, and completed a union catalogue of books at all centers of the institution located in various parts of the city.

The new Director will also have the supervision of the newest library addition to the institution, Nassau College at Hempstead, Long Island. The consolidation of library administration in the institution was the outcome of special studies conducted by a committee of the University Council of which Benjamin Strong is chairman. The plan was strongly supported, Dr. Chase said, by the Society for the Libraries of New York University, an organization of members and friends of the

institution interested in library and literary affairs of which Cass Canfield is president.

Mr. Rice expressed himself as strongly impressed by the general spirit of the university as interpreted to him by Chancellor Chase and other officers.

"I shall be proud indeed to become part of the distinguished faculty and hope that I can do my part in helping the development of a great school through the development of its libraries," the new director said when he accepted the appointment.

"I realize that the libraries of New York University are at present inadequate for the large student body and faculty. I am convinced that everyone connected with the University from Chancellor Chase down believes that the immediate reorganization and development of the libraries is vitally and absolutely necessary."

New York University was commended for the appointment of Mr. Rice by Dr. H. M. Leydenberg, director of the New York Public Library; Dr. Charles C. Williamson, director of University Libraries and dean of the School of Library Service at Columbia University, and Milton J. Ferguson, chief librarian of the Brooklyn Public Library.

"The appointment of Paul North Rice as Director of the Libraries of New York University brings back to New York a man who gave thirteen years of noteworthy service in the New York Public Library before going to Dayton," Dr. Leydenberg said.

"His fitness for the position will be recognized by all who have been acquainted with his work and is unquestioned. It will be a real pleasure as a librarian and as a personal friend to welcome Mr. Rice back to New York and to have him in charge of the libraries of one of the city's great universities."

Dr. Williamson said that he was greatly pleased to learn that Mr. Rice had been selected to fill the newly created position of Director of Libraries of New York University.

"The appointment seems to me to be admirable in every way and I heartily congratulate the University on being able to secure a man so well qualified by ability, personality, training and experience for this important post," Dr. Williamson said.

"By an interesting coincidence the news of Mr. Rice's appointment came to me just as I was reading in a recently published volume the findings of a study of effective and ineffective college teaching, undertaken at the suggestion of Professor Marshall S. Brown, dean of the Faculties of New York University.

"Reports from over four hundred college administrators indicate that one of the five best methods out of a total of forty for improving instruction in colleges and universities is the provision of adequate library facilities. Adequate library facilities for a great metropolitan university such as New York University, with its numerous and highly diversified educational programs, necessitates a unified, strong and highly skilled library administration.

"Speaking for the library administration of a sister university I welcome Mr. Rice's return to New York. In the difficult and important task

XUM

before him he can rely upon the fullest possible cooperation from all the libraries of the city."

Mr. Ferguson stated that the appointment of Mr. Rice was a matter of outstanding importance in metropolitan circles.

"No other piece of business now confronts New York University which is so important as the correlation of its libraries," Mr. Ferguson said. "This task is made difficult because the University plant must, of necessity, be scattered over a wide area. Funds might, for that reason, be easily wasted.

"The expense of building up library resources adequate to the needs of the University will, under utmost economies, be great. This institution cannot, however, fulfill its destinies unless its libraries are rich in every department of knowledge, and, furthermore, unless that material is placed at the disposal of faculties and students under the happiest conditions. New York University must, sooner or later, erect a modern library building, capable of housing a great collection of books.

"This task demands the directing services of a man who knows books, buildings and people. He will need courage; he will have to endure disappointments, without for a moment losing sight of his ultimate objective; he must organize his scattered staff into an effective instrument intent upon service to the University; he must know books; he must appreciate the importance, to the university of today, and to the nation of tomorrow, of the task given him to do. In Paul North Rice I think Chancellor Harry Woodburn Chase has found the man who measures up to all requirements.

"Personally I want to welcome Mr. Rice to the metropolitan area. I expect him to serve the University well; and I know he will be a happy addition to our professional group."

UNION CATALOGUE OF MEDICAL LITERATURE IN CHICAGO NOW OPEN FOR REFERENCE

By Otto F. Kampmeier, Ph.D., M.D., *Head Department of Anatomy, College of Medicine, University of Illinois, Chicago, and Chairman of the (Institute of Medicine) Committee on Coordination of Medical Libraries in Chicago.*

Two years ago the Institute of Medicine of Chicago made available an initial fund for the establishment of a union catalogue of medical literature in Chicago. The work of organization of this project was entrusted to a Committee on Coordination of Medical Libraries in Chicago, which had been appointed a year before. The first aim of the committee was to bring about closer integration of effort among the major medico-biological libraries of the city (John Crerar Library, Universities of Chicago, Illinois, Northwestern, and Loyola, Rush Medical College) to obviate unnecessary duplication, triplication or even quadruplication of special literature, and divert the economies achieved to a fuller representation of the world's medical literature in Chicago. The second aim was the creation of a union card index centrally placed, so that investigators in medical problems are able to locate the desired reference volumes with the least expenditure of time and energy. It is hoped that eventually the service of the catalogue will be made even more effective by the attachment of a permanent librarian and the availability of information by telephone.

The task of achieving such a union catalogue and its cost in effort and money are much greater than the original estimates indicated. The work towards its completion is still in progress. At the present time the cards representing the holdings in the libraries of the Colleges of Medicine and Dentistry of Northwestern University, of the Colleges of Medicine, Dentistry and Pharmacy, of the University of Illinois, most of the holdings in the bio-medical libraries of the University of Chicago, and much of those in the John Crerar Library and in the library of Rush Medical College are already inserted in the index, while none of the holdings in the library of the school of medicine of Loyola University are included as yet. But all of such work will be brought to completion as soon as possible. Every month these different medical libraries are sending in the cards of their new acquisitions, so that the catalogue is brought to date. It is hoped that in time the important holdings in the smaller medical libraries in the city will be represented in the catalogue. The final editing of this union index may not be accomplished before another two or three years have passed. Despite its present gaps and imperfections, the catalogue has already given valuable service to the medical librarians of the city, and to investigators who were aware of its existence.

The union catalogue is now open to a wider medical public, which is invited to make use of it for reference and to cooperate in its further development and extension of service. It is located on the 12th floor, or floor of the medical reading rooms, in the John Crerar Library. Further information concerning it may be obtained from the medical librarians indicated above, or from the central office of the Institute of Medicine of Chicago, 629 So. Wood Street. Criticisms or suggestions should be sent to the latter.

XUM

MEDICAL LIBRARY ASSOCIATION
COMMITTEES APPOINTED FOR THE YEARS 1935-1936

Manager of the Exchange:
Miss Ella B. Lawrence, St. Louis, Mo.

Executive Committee:
Chairman: Miss Marjorie J. Darrach, Detroit, Mich. (1 year)
Members: Miss Sue Biethan, Ann Arbor, Mich. (1 year)
Mrs. Eileen R. Cunningham, Nashville, Tenn. (2 years)
Mrs. Rosa M. Hibbard, Kansas City, Mo. (3 years)
Mrs. Judith Wallen Hunt, Chicago, Ill. (3 years)

Publication Committee:
Chairman: Mr. J. C. Harding, Cleveland, O.
Members: Mrs. Mildred S. Farrow, San Diego, Calif.
Miss Ada L. Floyd, Cleveland, O.
Mrs. Judith W. Hunt, Chicago, Ill.
Miss M. Edna M. Poole, Toronto, Canada.

Committee on Periodicals and Serial Publications:
Chairman: Mrs. Eileen R. Cunningham, Nashville, Tenn.
Members: Miss Janet Doe, New York, N. Y.
Dr. Sanford V. Larkey, Baltimore, Md.
Col. C. F. Wylde, Montreal, Canada.

Committee to Consider the Compilation of a List of Health Works Recommended for Lay Reading:
Chairman: Miss Heath Babcock, Albany, N. Y.
Members: Mrs. Sarah Wilson George, New York, N. Y.
Miss M. Edna M. Poole, Toronto, Canada.
Miss Lela A. Sinkey, Columbus, O.

Committee on Public Documents:
Chairman: Dr. Sanford V. Larkey, Baltimore, Md.
Members: Dr. W. B. McDaniel, 2nd, Philadelphia, Pa.
Miss Louise Ophuls, San Francisco, Calif.

Program and Entertainment Committee:
Chairman: Miss Isabelle T. Anderson, St. Paul, Minn.
Members: Miss Helen H. Norris, Minneapolis, Minn.
Miss Frida Pliefke, Rochester, Minn.
Miss Elizabeth D. Runge, Galveston, Tex.
Dr. Arthur H. Sanford, Rochester, Minn.

Committee to Study the Feasibility of Co-ordinating Bibliographical Research Work of Medical Libraries:
Chairman: Mrs. Florence Cooksley, Rochester, N. Y.
Members: Miss Edith R. Daly, Brooklyn, N. Y.
Mrs. Mildred S. Farrow, San Diego, Calif.
Miss Thelma M. Feeman, Danville, Pa.
Mrs. L. Mabel Grant, Sayre, Pa.

Miss Bertha B. Hallam, Portland, Ore.
Mrs. Edith Keller, New York, N. Y.
Miss Maude E. Nesbit, Albany, N Y.
Mrs. Josephine Nichols, New York, N. Y.
Miss Ella M. Salmonsen, Chicago, Ill.

Nominating Committee:
Chairman: Mrs. Mary E. Irish, Los Angeles, Calif. (1 year)
Members: Mrs. Ethel Washburn, St. Louis, Mo. (2 years)
Miss Isabelle T. Anderson, St. Paul, Minn. (3 years)

Membership Committee:
Chairman: Mrs. Madelene Marshall, Chicago, Ill.
Members: Miss Lois Braden, Spokane, Wash.
Miss Judith Farrar, Durham, N. C.
Miss Ruth T. Hughes, Oklahoma City, Okla.
Miss Bonita Morton, Dallas, Texas.
Miss Mildred V. Naylor, Newark, N. J.
Col. C. F. Wylde, Montreal, Canada.

XUM

BOOK REVIEW
INDUSTRIAL MEDICINE

By W. Irving Clark, A.B., M.D., *Assistant Professor Industrial Medicine, Harvard School of Public Health, and* Philip Drinker, S.B., Ch.E., *Associate Professor Industrial Hygiene, Harvard School of Public Health.*

National Medical Monographs
National Medical Book Co., Inc.
New York, N. Y. 1935
Pp. 262. Price $3.00

The authors of this monograph are particularly competent to collaborate in bounding concisely and accurately the field of industrial practice. Between them they contribute the results of many years of practical experience in the field, research work on fundamental problems, and unusually sane viewpoints on controversial subjects.

The book is brief enough to be read through in an evening but contains data which makes it a valuable source of reference material, reenforced with an excellent bibliography. Written in clear and readable style with logical arrangement of subject matter, it fulfills admirably the need of the general practitioner who does a limited amount of industrial work. In fact, the medical man who finds himself confronted with industrial problems without any background of experience—and unfortunately most medical schools give inadequate training in this important field—would do well to accept this little volume as his bible. At the same time, the up-to-the-minute and thoroughly excellent discussions on Working Environment, Dusts, and Pneumoconiosis bring new and authoritative information to the more experienced workers in the field.

The authors have wisely omitted a detailed discussion of Industrial Toxicology which is adequately covered by Alice Hamilton's monograph on that subject. The book opens with an outline of the organization of an industrial plant medical department which has served as the model for several outstanding industries.

D. M. G.

NEWS NOTES

Married on January 11, 1936, Miss Lily C. Hanvey, Librarian of the St. Louis Medical Society, to Mr. Harvey H. Alderson. We all extend sincere congratulations.

G. E. Stechert & Co. offer to furnish for the price of Ten Cents per copy, "Ochsner, E. H. Chronic Fatigue Intoxication, 1923."

Copies of Dr. William Browning's "Medical Heredity" (1925), for some years unobtainable, can now be purchased from the Remington-Putnam Company, 347 North Charles Street, Baltimore, while the supply lasts.

Owing to various changes in connection with the firm which published this book it was for a number of years not obtainable.

Dr. Browning thought it would be well to let any interested know that they can now be secured at the place indicated.

Frequently requests are received at the present office of publication for back numbers of the BULLETIN; as all the earlier issues, previous to volume 24, the current volume, are deposited at headquarters any one desiring earlier numbers should write to "Miss Nicola M. Smith, Medical & Chirurgical Faculty of Maryland, 1211 Cathedral St., Baltimore, Md."

Members who may wish to have Title-Page and Index of volume 23, 1934-1935, may secure a copy by writing the office of publication. Also have a few copies of the Group Photograph, taken at Baltimore in 1934. While the supply lasts we shall be pleased to send one to any member asking for it.

In "Special Libraries" volume 27, 1936 (Jan.) Miss Adelaide Macrum has an interesting article, "The Special Library and What it Offers," with a sub-title, "Medical and Public Health." A complete bibliography is included.

In the "Annals of Medical History," volume 7, N.S., 1935, pages 228-241 appears an interesting paper written by Mrs. Eileen R. Cunningham, Librarian of the Vanderbilt University Medical School, "A Short Review of the Development of Medical Education and Schools of Medicine."

XUM